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| 10/815,782 | 04/02/2004 | Hisashi Senga | P25123 | 8166 |
| 7055 7590 03/16/2007 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191 | | | EXAMINER PSITOS, ARISTOTELIS M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2627 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | NOTIFICATION DATE | DELIVERY MODE |
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| 3 MONTHS | 03/16/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/16/2007.

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Office Action Summary

Application No.

10/815,782

Applicant(s)

SENGA ET AL.

Examiner

Aristotelis M. Psitos

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-11,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 12,13,16-18 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Art Unit: 2627

DETAILED ACTION

Applicants' response of 1/3/07 has been considered with the following results.

Claims 4,14,15 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/3/07.

Response to Arguments

Applicants' have argued that there is no undue burden between the species as identified by the examiner.

The examiner respectfully disagrees. As defined by applicants themselves in paragraph 133 of the corresponding PG PUB 2004/0257940:

"...(Second Embodiment)

Fig. 7 is an operation sequence diagram of a laser power control apparatus related to a second embodiment of the invention. A laser power control method of this embodiment is different from the laser power Control method related to the first embodiment in that a spontaneous light emission interval in which a current less than a threshold current I_{th} is supplied to the laser to cause the laser to emit spontaneous emission light is provided in a test light emission pattern instead of the light-off interval. In the first embodiment, the light-off interval is provided in which a current supplied to the laser is reduced substantially to zero to thereby turn the laser off for the purpose to calibrate an offset in the receiving element 101 or the current-voltage conversion circuit 102 in the laser power detecting means 100. On the other hand, the laser, as shown in Fig.4, shows a spontaneous light emission region performing spontaneous light emission with a supply current less than a threshold current I_{th} . Therefore, as shown in Fig. 7, spontaneous light emission is caused for a time width T_O in the spontaneous light emission region (LED light emission region) instead of turning the laser off and a detection value at this time is used as a 0 mW level to calibrate an offset. "

Nevertheless in accordance with:

808.01(a) [R-5] Species

Art Unit: 2627

Where there is no disclosure of a relationship between species (see MPEP § 806.04(b)), they are independent inventions. A requirement for restriction is permissible if there is a patentable difference between the species as claimed and there would be a serious burden on the examiner if restriction is not required. See MPEP § 803 and § 808.02.

Where there is a relationship disclosed between species, such disclosed relation must be discussed and reasons advanced leading to the conclusion that the disclosed relation does not prevent restriction, in order to establish the propriety of restriction.

When a requirement for restriction between either independent or distinct species is made, applicant must elect a single disclosed species even if applicant disagrees with the examiner's restriction requirement.

Election of species should not be required between claimed species that are considered clearly unpatentable (obvious) over each other. In making a requirement for restriction in an application claiming plural species, the examiner should group together species considered clearly unpatentable over each other.

Election of species may be required prior to a search on the merits (A) in applications containing claims to a plurality of species with no generic claims, and (B) in applications containing both species claims and generic or Markush claims.

Furthermore as also stated in MPEP:

808.02 [R-5] Establishing Burden

Where, as disclosed in the application, the several inventions claimed are related, and such related inventions are not patentably distinct as claimed, restriction under 35 U.S.C. 121 is never proper (MPEP § 806.05). If applicant voluntarily files claims to such related inventions in different applications, double patenting may be held.

Where the * inventions as claimed are shown to be independent or distinct under the criteria of MPEP § 806.05(c) - § 806.06, the examiner, in order to establish reasons for insisting upon restriction, must explain why there would be a serious burden on the

Art Unit: 2627

examiner if restriction is not required. Thus the examiner must show by appropriate explanation one of the following:

- (A) Separate classification thereof : This shows that each invention has attained recognition in the art as a separate subject for inventive effort, and also a separate field of search. Patents need not be cited to show separate classification.
- (B) A separate status in the art when they are classifiable together : Even though they are classified together, each invention can be shown to have formed a separate subject for inventive effort when the examiner can show a recognition of separate inventive effort by inventors. Separate status in the art may be shown by citing patents which are evidence of such separate status, and also of a separate field of search.
- (C) A different field of search : Where it is necessary to search for one of the inventions in a manner that is not likely to result in finding art pertinent to the other invention(s) (e.g., searching different classes /subclasses or electronic resources, or employing different search queries, a different field of search is shown, even though the two are classified together. The indicated different field of search must in fact be pertinent to the type of subject matter covered by the claims. Patents need not be cited to show different fields of search.”.

Since applicants' themselves have recognized the difference between the two species, and furthermore these species are not obvious over one another, the examiner maintains the restriction requirement.

The previous restriction requirement is maintained and hereby made FINAL.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The IDS documents filed have been made of record.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

Figure 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations of claims 5-13 and 16-18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 2627

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1,2,10,11, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by either JP 2002-203320 or PGPUB 2002/0070329A1.

With respect to apparatus claim 1:

The JP document discloses a formatter – see the description of figure 2 in the accompanying MAT (machine assisted translation thereof) wherein element 52 is so interpreted. The various pulses: multipulse light – peak value, bottom value – are interpreted as the signal values 49,50 and so forth, while the operation of elements 46-48 are interpreted as the claimed laser driver.

The laser power detection unit is interpreted as the photodetector elements (not clearly depicted) up to elements sh1,2 and 3 in this figure. The arithmetic unit is interpreted as the ad elements, dsp element 45 and da elements so depicted.

Applicants' attention is further drawn to the MAT starting at paragraph 101 thereof which describes the operation of the elements, as well as the MAT starting at paragraph 114 which describes the operation of the DSP (arithmetic element) as further depicted in figure 5 thereof.

With respect to claim 20, applicants' attention is drawn to the MAT starting at Paragraph 155 and the description of figure 7. The examiner interprets this as meeting the limitations herein.

With respect to claims 1 and 2 these are the method equivalents of the above analyzed apparatus claims and fall when the above system operates.

Art Unit: 2627

With respect to claim 10, the examiner interprets these claims as drawn to the erasing signal level and time duration thereof. As known, in order to erase a signal the duration of such a signal is longer than the longest pulse, else proper erasure would not occur. Hence the examiner concludes such a condition is inherently present.

With respect to claim 11, this is inherently present, i.e., the erase time period is less than $\frac{1}{2}$ the wobble cycle.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 5,6,8,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1 and 2 as stated in paragraph 1 above, and further in view of Nakajo.

Art Unit: 2627

Although various time durations are depicted in the above JP document, the time duration of the multipulses are not greater than the time duration of the longest recording mark, rather they are equal.

Nevertheless, as known in this environment, the ability of varying the time duration of the multipulses is taught by the Nakajo reference – see for instance the disclosure with respect to figures 10-14 for instance.

It would have been obvious to modify the base system as relied upon above in paragraph 1 with the additional teaching from Nakajo, motivation is as discussed in Nakajo in order to have a better impact upon jitter.

With respect to claim 6, this is inherently present in the base reference, i.e., the time duration/width of the multipulses is less than $\frac{1}{2}$ of the wobble cycle ($t_{mp} < 186T//2$).

With respect to claim 7, this is also taught by the Nakajo reference – again note the above discussion with respect to figures 10-14.

With respect to claim 8, this also is inherent in the base reference, i.e., t_b is less than the wobble cycle, ($t_b < 186T$).

With respect to claim 9, such is also taught by the Nakajo reference, i.e., the time duration of the spaces (in the mark space recording format) greater than the time duration/width of $t_b + t_{mp}$, is so taught.

3. Claims 1,2,10,11, 19 and 20 rejected under 35 U.S.C. 102(b) as being anticipated by PGPUB 2002/0070329.

Applicants' attention is drawn to the discussion of figures 1-3 of this document. The system is known to applicants (common inventors), no further analysis is made.

4. Claims 1,2,10,11,19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by 6728178

The applied reference has a common inventor/assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Art Unit: 2627

This is the US Patent equivalent of the above noted PGPUB. Applicants' attention is drawn to the discussion of figures 1-3 thereof.

Conclusion

Allowable Subject Matter

5. Claims 3, 12, 13, 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The spontaneous limitation of claim 3 is not clearly depicted/disclosed in the cited prior art.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakamura is cited as illustrative of prior art systems teaching in this environment the ability of varying the multipulse durations predicated upon various conditions/attributes.

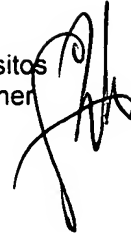
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M. Psitos whose telephone number is (571) 272-7594. The examiner can normally be reached on M-F: 6:00 - 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2627

Aristotelis M Psitos
Primary Examiner
Art Unit 2627

A handwritten signature in black ink, appearing to be 'A. Psitos', written over the printed name and title.

AMP.